



**State of Louisiana  
Department of Natural Resources  
Coastal Restoration Division**

**2006 Annual Inspection Report**

**Barataria Bay Waterway West  
Bank Protection**

State Project Number BA-23  
Priority Project List 4

August 8, 2006  
Jefferson Parish

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## **I. Introduction**

The Barataria Bay Waterway West Bank Protection Project (BA-23) is located in Jefferson Parish, Louisiana approximately 4.5 mi (7.2 km) south of Lafitte on the west side of the Dupre Cut portion of the Barataria Bay Waterway (BBW). The project area is east of Bayou Rigolettes, north of the Lafitte Oil and Gas Field, and southwest of The Pen (Appendix A).

## **II. Project Description and History**

Project area wetlands were formed in a protective curve of the natural ridge of Bayou Barataria. The east-west orientation of the ridge, which serves as the southern boundary of the project area, protected the wetlands from the direct influence of salinities and tidal action of the Gulf of Mexico through Barataria Bay. Construction of the Dupre Cut portion of BBW established a direct conduit linking project wetlands with Barataria Bay. Initially, Dupre Cut spoil banks protected the project area from salinity and tidal fluctuations in the waterway. The combination of subsidence and wave erosion from marine traffic, however, has caused a breaching of the spoil banks which has resulted in increased water exchange and salinity fluctuations.

1. Foreshore Rock Dike
  - 9,900 linear feet (2,865 m) of rock shoreline protection along the west bank of the BBW.
2. Water Control Structure
  - Two (2) 48 inch diameter culverts.
  - Four (4) 5 ft long stop log bays capable of holding 10 stop logs each.

The purpose of the foreshore rock dike is to protect the existing adjacent marsh from excessive water exchange, wave action, and subsequent erosion. The structure also protects newly created marsh which was constructed as a beneficial use project during the U.S. Army Corps of Engineers' (USACE) maintenance dredging of the BBW. This marsh was created by beneficially placing approximately 750,000 cubic yards of dredge material from the Waterway in shallow open water areas adjacent to the BBW. Gaps in the spoil bank excluded from the USACE dredging operation were filled in, thereupon reinforcing and forming a continuous structure.

The purpose of the water control structure, which is located at the end of an abandoned oil well access canal, is to allow the water levels in the new and existing marsh to be managed. The structure remains open most of the year, allowing unimpeded ingress and egress of marine organisms. During waterfowl hunting season, which is also low water season, (November through January) the structure is closed to retain water within the southern project area. Water levels are managed to a height not to exceed 6 inches (15 cm) below marsh elevation in the southern project area.

Project construction began on June 9, 2000, and was completed on November 7, 2000. Project life is estimated to be 20 years. Annual project inspections are planned.

### **III. Inspection Purpose and Procedures**

The purpose of the annual inspection of the Barataria Bay Waterway West Bank Protection Project (BA-23) is to evaluate the constructed project features to identify any deficiencies and prepare a report detailing the condition of project features and recommended corrective actions needed. Should it be determined that corrective actions are needed, LDNR shall provide, in the report, a detailed cost estimate for engineering, design, supervision, inspection, and construction contingencies, and an assessment of the urgency of such repairs (O&M Plan March 18, 2002). The annual inspection report also contains a summary of maintenance projects and an estimated projected budget for the upcoming three (3) years for operation, maintenance and rehabilitation. The three (3) year projected operation and maintenance budget is shown in Appendix C. A summary of past operation and maintenance projects completed since completion of the project are outlined in Section II.

An inspection of the Barataria Bay Waterway West Bank Protection Project (BA-23) was held on October 4, 2005 by George Boddie, Barry Richard, Tom Bernard, and Melissa

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Kaintz from LDNR; Quin Kinler of NRCS. There was a southeast wind at approximately 15 mph, and the tide gage, which is located approximately 0.8 miles north of C&M Marina on the east bank of the Barataria Bay Waterway, read +1.9-ft NAVD-88. Photographs of that inspection are included in Appendix B of this report.

## **IV. Inspection Results**

### **Rock Riprap**

There was no noticeable damage to the rock structure due to the Hurricanes Katrina and/or Rita. Prior to the Hurricane there was some settlement noticed in the structure which was still present at the time of the inspection (Photo #1). In December, 2005, a contract to raise these structures was awarded and resulted in the placement of 5,143 tons of rock riprap on the settled sections of the structure. The work was completed on January 24, 2006 (Photo #2).

### **Water Control Structure**

The water control structure showed no signs of damage due to the Hurricane (Photo #3). The structure was flowing water from the BBW into the wetlands. The stop-logs for the structure were out at the time of inspection as per the current permit requirements. The stop logs were placed in the stop log bays on November 30, 2005, and were removed on February 22, 2006.

The water control structure is accessed through an abandoned oil well canal. This canal was dredged during construction for increased hydrologic exchange between the project area and the BBW, and for access to the structure. Since construction, it has slowly silted in, reducing the amount of hydrologic exchange and making access to the structure more difficult. During this year's operation, it was apparent that the canal needs dredging, and plans are currently being developed to accomplish this.

## **V. Conclusions**

The Barataria Bay Waterway West Bank Protection Project (BA-23) is performing as intended. The rock dike is protecting the existing marsh as designed, and the dredge material which the USACE placed inside of the project area has set up and vegetated nicely. The recently completed maintenance lift raised the elevation of the settled sections of foreshore rock dike back to the original designed elevation. This should ensure that the structure performs adequately through the next programmed maintenance lift in 2010.

In August of 2005 the permit describing the operations of the water control structure was amended using a new marsh elevation. This has allowed the structure operations to be modified, increasing the stop log elevation, which in turn retains more water in the project area during periods of low water. The initial response to the new operational procedures is positive.

As mentioned above, the access canal to the water control structure has silted in a significant amount since the project was completed. Because of this, the dredging of the access canal is an immediate maintenance concern. Permit consistency has been acquired,

and Plans and Specifications are being finalized to ensure this work is started by early 2007. Material from this dredging will be beneficially placed adjacent to the canal to create marsh habitat.

## **VI. Recommendations**

Follow up on dredging the access canal for the water control structure.

### **Immediate Repairs**

- Dredge water control structure access canal.

### **Programmed Maintenance**

- Continue to check the water control structure for damage when placing or removing stop logs.
- All maintenance has been completed. The next cycle of program maintenance is scheduled for 2010.

## **Appendix A**

### **Project Features Map**



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## **Appendix B**

### **Photographs**





**Photo #1 – Shoreline Protection.** Before Maintenance Project.



**Photo #2 – Shoreline Protection.** After Maintenance Project.

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**Photo #3 – Water Control Structure.** Stop logs are out of the bays.

## **Appendix C**

### **Three Year Budget Projection**

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Three-Year Operations & Maintenance Budgets 07/01/2006 - 06/30/2009				
<u>Project Manager</u>	<u>O &amp; M Manager</u>		<u>Federal Sponsor</u>	<u>Prepared By</u>
Barry Richard	Barry Richard		NRCS	Barry Richard
	2006/2007		2007/2008	2008/2009
Maintenance Inspection	\$3,257.00		\$3,341.00	\$3,428.00
Structure Operation	\$7,085.00		\$7,269.00	\$7,458.00
Administration	\$-		\$-	\$-
Maintenance/Rehabilitation				
06/07 Description:				
E&D	\$-			
Construction	\$-			
Construction Oversight	\$-			
Sub Total - Maint. And Rehab.	\$-			
07/08 Description:				
E&D		\$-		
Construction		\$-		
Construction Oversight		\$-		
	Sub Total - Maint. And Rehab.	\$-		
08/09 Description:				
E&D				\$-
Construction				\$-
Construction Oversight				\$-
		Sub Total - Maint. And Rehab.	\$-	
	2006/2007		2007/2008	2008/2009
Annual O&M Budgets	\$10,342.00		\$10,610.00	\$10,886.00
O & M Budget (3 yr Total)				\$31,838.00
Existing O & M Budget				\$339,264.61
Remaining O & M Budget (Projected)				\$307,426.81

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**OPERATION AND MAINTENANCE BUDGET WORKSHEET 2006/2007**

Barataria Bay Waterway West Restoration Project / BA-23 / PPL 4

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,257.00	\$3,257.00
General Structure Maintenance	LUMP	0	\$0.00	\$0.00
Engineering and Design	LUMP	0	\$0.00	\$0.00
Operations Contract	LUMP	1	\$7,085.00	\$7,085.00
Construction Oversight	LUMP	0	\$0.00	\$0.00

**ADMINISTRATION**

LDNR / CRD Admin.	LUMP	0	\$0.00	\$0.00
FEDERAL SPONSER Admin.	LUMP	0	\$0.00	\$0.00
SURVEY Admin.	LUMP	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL ADMINISTRATION COSTS:				\$0.00

**MAINTENANCE / CONSTRUCTION**

**SURVEY**

SURVEY DESCRIPTION:					
	Secondary Monument	EACH	0	\$0.00	\$0.00
	Staff Gauge / Recorders	EACH	0	\$0.00	\$0.00
	Marsh Elevation / Topography	LUMP	0	\$0.00	\$0.00
	TBM Installation	EACH	0	\$0.00	\$0.00
	OTHER	EACH	0	\$0.00	\$0.00
	TOTAL SURVEY COSTS:				\$0.00

**GEOTECHNICAL**

GEOTECH DESCRIPTION:					
	Borings	EACH	0	\$0.00	\$0.00
	OTHER				\$0.00
	TOTAL GEOTECHNICAL COSTS:				\$0.00

**CONSTRUCTION**

CONSTRUCTION DESCRIPTION:					
	Rip Rap	LIN FT	TON / FT	TONS	UNIT PRICE
		0	0.0	0	\$0.00
		0	0.0	0	\$0.00
		0	0.0	0	\$0.00
Filter Cloth / Geogrid Fabric		SQ YD	0	\$0.00	
Navagation Aid		EACH	0	\$0.00	
Signage		EACH	0	\$0.00	
General Excavation / Fill		CU YD	0	\$0.00	
Dredging		CU YD	0	\$0.00	
Sheet Piles (Lin Ft or Sq Yds)			0	\$0.00	
Timber Piles (each or lump sum)			0	\$0.00	
Timber Members (each or lump sum)			0	\$0.00	
Hardware		LUMP	0	\$0.00	
Materials		LUMP	0	\$0.00	
Mob / Demob		LUMP	0	\$0.00	
Contingency		LUMP	0	\$0.00	
General Structure Maintenance		LUMP	0	\$0.00	
OTHER				\$0.00	
OTHER				\$0.00	
OTHER				\$0.00	
TOTAL CONSTRUCTION COSTS:					\$0.00

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:**

**\$10,342.00**



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**OPERATION AND MAINTENANCE BUDGET WORKSHEET 2007/2008**

Barataria Bay Waterway West Restoration Project / BA-23 / PPL 4

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,341.00	\$3,341.00
General Structure Maintenance	LUMP	0	\$0.00	\$0.00
Engineering and Design	LUMP	0	\$0.00	\$0.00
Operations Contract	LUMP	1	\$7,269.00	\$7,269.00
Construction Oversight	LUMP	0	\$0.00	\$0.00

**ADMINISTRATION**

LDNR / CRD Admin.	LUMP	0	\$0.00	\$0.00
FEDERAL SPONSER Admin.	LUMP	0	\$0.00	\$0.00
SURVEY Admin.	LUMP	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL ADMINISTRATION COSTS:				\$0.00

**MAINTENANCE / CONSTRUCTION**

**SURVEY**

SURVEY DESCRIPTION:					
	Secondary Monument	EACH	0	\$0.00	\$0.00
	Staff Gauge / Recorders	EACH	0	\$0.00	\$0.00
	Marsh Elevation / Topography	LUMP	0	\$0.00	\$0.00
	TBM Installation	EACH	0	\$0.00	\$0.00
	OTHER	EACH	0	\$0.00	\$0.00
	TOTAL SURVEY COSTS:				\$0.00

**GEOTECHNICAL**

GEOTECH DESCRIPTION:					
	Borings	EACH	0	\$0.00	\$0.00
	OTHER				\$0.00
	TOTAL GEOTECHNICAL COSTS:				\$0.00

**CONSTRUCTION**

CONSTRUCTION DESCRIPTION:						
	Rip Rap	LIN FT	TON / FT	TONS	UNIT PRICE	
		0	0.0	0	\$0.00	\$0.00
		0	0.0	0	\$0.00	\$0.00
		0	0.0	0	\$0.00	\$0.00
	Filter Cloth / Geogrid Fabric		SQ YD	0	\$0.00	\$0.00
	Navagation Aid		EACH	0	\$0.00	\$0.00
	Signage		EACH	0	\$0.00	\$0.00
	General Excavation / Fill		CU YD	0	\$0.00	\$0.00
	Dredging		CU YD	0	\$0.00	\$0.00
	Sheet Piles (Lin Ft or Sq Yds)			0	\$0.00	\$0.00
	Timber Piles (each or lump sum)			0	\$0.00	\$0.00
	Timber Members (each or lump sum)			0	\$0.00	\$0.00
	Hardware		LUMP	0	\$0.00	\$0.00
	Materials		LUMP	0	\$0.00	\$0.00
	Mob / Demob		LUMP	0	\$0.00	\$0.00
	Contingency		LUMP	0	\$0.00	\$0.00
	General Structure Maintenance		LUMP	0	\$0.00	\$0.00
	OTHER				\$0.00	\$0.00
	OTHER				\$0.00	\$0.00
	OTHER				\$0.00	\$0.00
TOTAL CONSTRUCTION COSTS:					\$0.00	

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:**

**\$10,610.00**

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**OPERATION AND MAINTENANCE BUDGET WORKSHEET 2008/2009**

Barataria Bay Waterway West Restoration Project / BA-23 / PPL 4

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$3,428.00	\$3,428.00
General Structure Maintenance	LUMP	0	\$0.00	\$0.00
Engineering and Design	LUMP	0	\$0.00	\$0.00
Operations Contract	LUMP	1	\$7,458.00	\$7,458.00
Construction Oversight	LUMP	0	\$0.00	\$0.00

**ADMINISTRATION**

LDNR / CRD Admin.	LUMP	0	\$0.00	\$0.00
FEDERAL SPONSER Admin.	LUMP	0	\$0.00	\$0.00
SURVEY Admin.	LUMP	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL ADMINISTRATION COSTS:				\$0.00

**MAINTENANCE / CONSTRUCTION**

**SURVEY**

SURVEY DESCRIPTION:					
	Secondary Monument	EACH	0	\$0.00	\$0.00
	Staff Gauge / Recorders	EACH	0	\$0.00	\$0.00
	Marsh Elevation / Topography	LUMP	0	\$0.00	\$0.00
	TBM Installation	EACH	0	\$0.00	\$0.00
	OTHER	EACH	0	\$0.00	\$0.00
	TOTAL SURVEY COSTS:				\$0.00

**GEOTECHNICAL**

GEOTECH DESCRIPTION:					
	Borings	EACH	0	\$0.00	\$0.00
	OTHER				\$0.00
	TOTAL GEOTECHNICAL COSTS:				\$0.00

**CONSTRUCTION**

CONSTRUCTION DESCRIPTION:					
Rip Rap	LIN FT	TON / FT	TONS	UNIT PRICE	
	0	0.0	0	\$0.00	\$0.00
	0	0.0	0	\$0.00	\$0.00
	0	0.0	0	\$0.00	\$0.00
Filter Cloth / Geogrid Fabric		SQ YD	0	\$0.00	\$0.00
Navigation Aid		EACH	0	\$0.00	\$0.00
Signage		EACH	0	\$0.00	\$0.00
General Excavation / Fill		CU YD	0	\$0.00	\$0.00
Dredging		CU YD	0	\$0.00	\$0.00
Sheet Piles (Lin Ft or Sq Yds)			0	\$0.00	\$0.00
Timber Piles (each or lump sum)			0	\$0.00	\$0.00
Timber Members (each or lump sum)			0	\$0.00	\$0.00
Hardware		LUMP	0	\$0.00	\$0.00
Materials		LUMP	0	\$0.00	\$0.00
Mob / Demob		LUMP	0	\$0.00	\$0.00
Contingency		LUMP	0	\$0.00	\$0.00
General Structure Maintenance		LUMP	0	\$0.00	\$0.00
OTHER				\$0.00	\$0.00
OTHER				\$0.00	\$0.00
OTHER				\$0.00	\$0.00
TOTAL CONSTRUCTION COSTS:					\$0.00

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:** **\$10,886.00**

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## **Appendix D**

### **Field Inspection Form**

MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: **BA-23 Barataria Waterway (West) Shoreline Protection** Date of Inspection: 10/4/2005 Time: 8:30 am

Structure No. \_\_\_\_\_ Inspector(s): Richard Boddie, Bernard Kaintz, Kinler

Structure Description: \_\_\_\_\_ Water Level Inside: N/A Outside: Approx. 1.9 ft

Type of Inspection: Post Storm Weather Conditions: Clear Skies, Windy

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
CMP culverts	Good	None	None		No change due to Hurricanes.
Weir Bays - logs locks, hoist, supports	Good	None	Some	3	No change due to Hurricanes.
Handrails Grating Hardware etc.	Good	None	None	3	No change due to Hurricanes.
Timber Piles	Good	None	None	3	No change due to Hurricanes.
Timber Wales	Good	None	None		No change due to Hurricanes.
Galv. Pile Caps	Good	None	None	3	No change due to Hurricanes.
Signage /Supports	Good	None	None	3	No change due to Hurricanes.
Riprap	Good	None	None		No change due to Hurricanes.
Silt/Fill	Fair	None	None		Access channel for water control structure silting in.
Foreshore Rock Dike	Fair	Sinking	None	1,2	No change due to Hurricanes.